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REMARKS

Applicants thank the Examiner for the thorough consideration given the present application.

The claims are amended for consistency and to eliminate any possible indefinite language. Claims 1, 17, and 35 are further amended to distinguish over the art of record.

In particular, claim 1 is now directed to a method of printing a document from a computer with a printer having a printer processor having a combination of steps, including generating, in the computer instruction, data that causes the printer to print plural pages of the document; generating, in the computer, resource information indicative of printer processor resources required by the printer to print a current page and subsequent pages of the document; sending the instruction data and the resource information required to print the current page and subsequent pages from the computer to the printer with the current page; scheduling printer processor resources for the current page and subsequent pages of the document in accordance with the resource information sent with the current page; and printing the document with the printer processor resources as scheduled.

Claim 17 now requires printer adapted to print a document from instruction data and resource information, the printer having a printer processor, the printer processor being arranged to (a) schedule its resources for printing a current page and subsequent

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pages of the document in response to the instruction data in accordance with the resource information that includes information required to print the current page and subsequent pages, the resource information required to print the subsequent pages being included with the current page, and to (b) print the current page and subsequent pages of the document from the instruction data with the printer processor resources as scheduled.

Claim 21 is now directed to a computer programmed to provide a document for printing by a printer having a combination of elements, including a first information processing structure to generate instruction data to enable a printer to print the document; a second information processing structure resource to generate resource information indicative of printer processor resources required by the printer to print a current page and subsequent pages of the document; and an information path such that the instruction data and the resource information for causing the printer to print the current page and subsequent pages can be sent from the computer to a printer, the information paths being such that the instruction data for the subsequent pages is sent with the current page.

Claim 35 is amended to recite a computer system comprising a printer adapted to print a plurality of pages of a document from instruction data and resource information having a combination of elements, including a printer having a printer processor, the

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printer processor being arranged to schedule its resources for printing the different plural pages of the document from the instruction data in accordance with the resource information, and to print the document from the instruction data with the printer processor resources as scheduled; a computer programmed to provide a document for printing by a printer, the programmed computer having a first information processing structure to generate instruction data to enable a printer to print the document, a second information processing structure resource to generate resource information indicative of printer processor resources required by the printer to print a current page and subsequent pages of the document, and an information path such that the instruction data and the resource information can be sent from the computer to a the printer for causing the printer to print the current page and subsequent pages; and a communication path for sending information about printing the current page with the subsequent pages from the computer to the printer.

None of the art of record discloses or makes obvious the features of amended independent claims 1, 17, 21, and 35 or added independent claims 56-58.

Claims 3, 19, and 23 are rejected as being anticipated by Gerlach (U.S. 5,469,532). This rejection is incorrect because Gerlach does not disclose the requirements of claims 3, 19, and 23 of providing resource information as annotation to page description

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language (PDL) and/or job control language, i.e., at least one of page description language and job control language. Column 10, lines 29-33, of Gerlach does not mention annotating PDL. Instead, this portion of Gerlach indicates the PDL is converted to a Reader Primitive List (RPL), while determining the resources required to print the document. The selected resources are gathered and stored with the associated RPL. The Examiner is requested to support the statement that the foregoing activity described at column 10, lines 29-33, supports the statement that the resource information is annotated to the instruction data.

Since claims 4-16 depend on claim 3, claim 20 depends on claim 19, and claims 24-34 depend on claim 23, claims 4-16, 20, and 24-34 should be allowable with claims 3, 18, and 23. In addition, Applicants cannot agree that claims 5, 8, 25, and 27 are properly rejected as being obvious as a result of Gerlach in view of Snipp (U.S. 5,699,495). In this respect, the Snipp disclosure is conventional. Because Gerlach discloses a very specific arrangement that differs from the conventional arrangement of a printer driver and spooler, one of ordinary skill in the art would not have gone in a direction directly opposite from Gerlach. Combining Gerlach and Snipp constitutes impermissible hindsight.

The rejection of dependent claims 10, 20, and 29 based on the alleged obviousness of combining Gerlach and Motoyama (U.S. 5,319,748) is incorrect. These claims indicate, *inter alia*, that

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the annotation is in the form of comments in at least one of page description language and job control language. The broad statement concerning "various resources" at column 2, line 39, of Motoyama does not disclose the specific requirements of claims 10, 20, and 29.

Applicants traverse the rejection of claims 38-45, 50, and 51 under 35 U.S.C. §103(a) as being unpatentable over Gerlach in view of Barry (U.S. 5,596,416). Claim 38, upon which claim 39 depends, requires a scheduling step for a printer having a printer processor to change the order of operation of tasks related to the printer printing a document segment. Claims 40-45, 50, and 51 include similar limitations.

The Examiner admits Gerlach does not disclose altering the order of operation of tasks relating to printing a document segment or, more specifically, altering the scheduling to print later pages prior to printing earlier pages. The reliance of Barry to make this step obvious is incorrect. In Barry's system, multiple print engines are used to print a document, and the order of printing by these print engines is controlled. Because Barry uses multiple print engines, one of ordinary skill in the art would not combine Barry with Gerlach to arrive at the steps or arrangement of claims 38-45, 50, and 51.

The Office Action is also wrong in rejecting dependent claims 11-16 and 30-34 as being unpatentable over Gerlach in view of

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Motoyama '748, Siegel (U.S. 5,678,133), and Motoyama (EP 0 538 059). The identified passages of Siegel and Motoyama '059 do not suggest generating annotation for passing to the printer processor. The relied-on portion of Siegel merely discloses embedding relevant data in the PDL header. It is submitted that one of ordinary skill in the art would assume that such annotation would be used exactly as proposed in the Document Structuring Convention, i.e., for use by document managers to provide appropriate control or messages to users. In other words, such information is used not "printer-side," but "computer-side." Consequently, one of ordinary skill in the art would not have combined these four references to arrive at the features of claims 11-16 and 30-34.

Applicants traverse the rejection of claims 36 and 37 as being obvious over Gerlach and Nagata (U.S. 5,696,984). Claim 36 requires a computer-readable program code for causing a computer to annotate instruction data with resource information, thereby enabling the annotated instruction data to be provided for printing by the printer. Claim 37 recites a computer-readable program code for causing a computer to annotate instruction data to be provided with resource information, thereby enabling the annotated instruction data for printing by the printer.

As discussed in connection with claim 3, Gerlach does not disclose annotating instruction data.

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Applicants traverse the rejection of claims 46-49 under 35 U.S.C. §103(a) as being unpatentable over Gerlach in view of Nagata and Barry. As discussed above, Barry does not disclose altering the order of operation of tasks relating to a printer printing a document segment or, more specifically, altering the scheduling to print later pages prior to printing earlier pages.

Applicants traverse the rejection of claims 52-55 as being obvious over Gerlach and Motoyama, apparently Motoyama '748.

Claim 52 requires the computer printer processor to be arranged to provide to the printer processor the resource information as comments in page description language located in page headers for enabling the printer processor to learn, in advance of receiving pages of a job, how the printer resources are to be scheduled to prevent printer stalls. The Office Action does not consider this limitation, nor does it appear to be disclosed by the applied art.

Claim 54 includes the steps of causing the computer printer processor to provide to the printer processor the resource information as comments in page description language located in page headers so the printer processor learns, in advance of receiving pages of a job, how the printer resources are to be scheduled to prevent printer stalls. The Office Action also does not consider this limitation, nor does it appear to be disclosed by the applied art.

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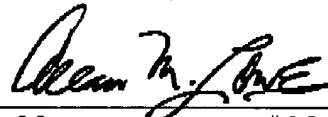
Newly added claims 59-65 are directed to features discussed at (i), (ii), and (iii) on page 7 of the application as filed. These features are not disclosed or rendered obvious by the art of record.

In view of the foregoing amendments and remarks, favorable reconsideration and allowance are deemed in order.

Pursuant to 37 C.F.R. §1.136(a), Applicants hereby request a one-month extension of time in which to file this response. Please charge the statutory fee of \$110 to Deposit Account No. 08-2025. If in error or other fees are required, the Commissioner is hereby authorized to credit any overpayment or charge any omitted fees, including application processing, extension of time, and extra claims fees, to Deposit Account No. 08-2025.

Respectfully submitted,
Richard TAYLOR et al.

By:


Allan M. Lowe, #19,641

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P. O. Box 272400
Fort Collins, CO 80527-2400
703-684-1111 telephone
970-898-0640 telecopier
AML:rk

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